

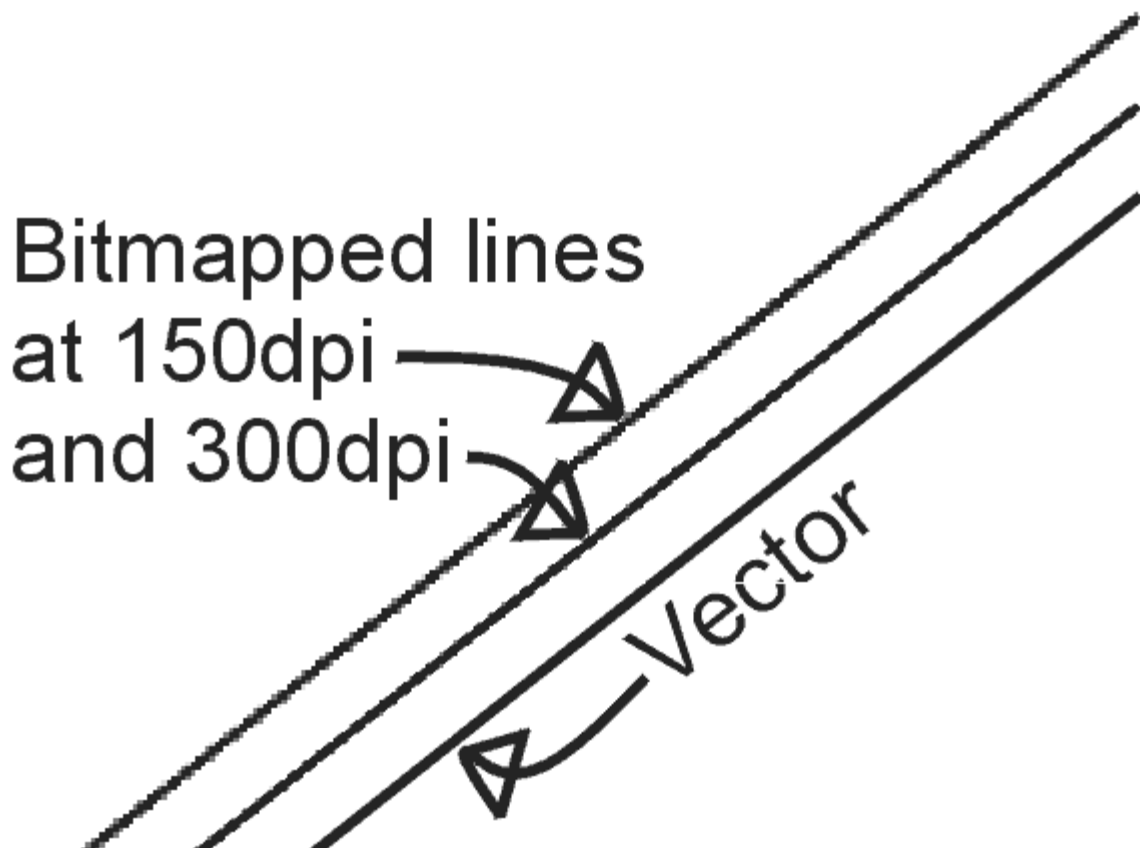
## Vector vs. Bitmap Images

A **vector** image or vector drawing is made up of a mathematical description of start points and end points. In other words, to draw a line rather than a bunch of blocks, a vector is drawn from an X,Y starting point to an X1,Y1 ending point.

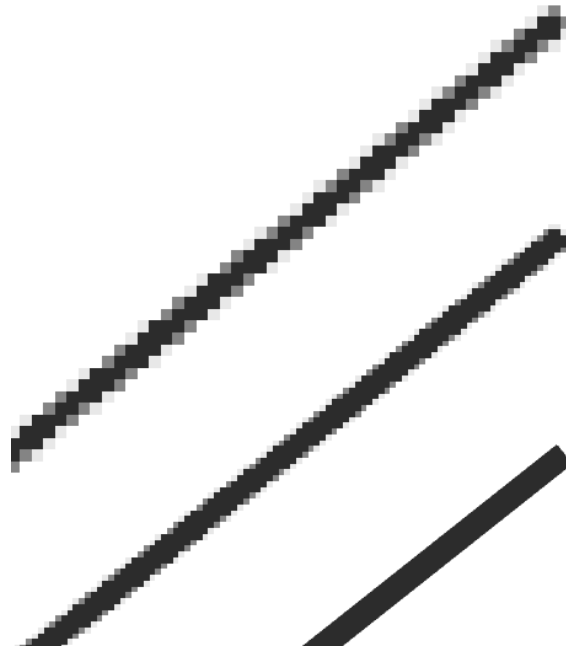
A **bitmap** image is made up of squares mapped to a grid. So an 800x600 bitmapped image is made of a grid of 480,000 (800x600) little squares. Digital photographs are bitmap images

You can think of a bitmapped image like someone handing you graph paper and telling you to black in certain squares to end up with something that resembles a line if you blur your vision and look from a distance. Then think of a vector image as someone handing you a blank piece of paper and a ruler and telling you to draw a line from a point 1 inch up and 1 inch over, to a point 6 inches up and 8 inches over. Which means you can get as close as you like, or blow it up as big as you like and it still looks like a line.

Here blown up close for illustration purposes are three lines. One at 150dpi, another at 300dpi, and finally a vector line defined by two endpoints and the thickness:



And here to really illustrate it is an extreme close-up of the ends:



### What is required?

For purposes of the Prop 1B Bond Funding Signs, local agency pictograph files must be submitted in the form of an **editable vector file in .eps or .ai format**. This is to ensure that the individual drawing points within the vector file can be selected so colors can be separated into layers or graphics can be manipulated if needed during the sign making process.

On the sign making end, here is an example of an editable vector file with all drawing points selected:



Just because a file type has “.eps” in the filename does not automatically make it editable. If the file was saved or exported to .eps from a flat bitmap image (even at a very high resolution) such as .jpg, .bmp, or .tif, the .eps will be flat and uneditable to the sign manufacturer. A proper .eps or .ai file that is editable is obtained when exported from the original drawing file, either Adobe Illustrator or Corel Draw applications.

This may require you contacting the local agency to request the right type of vector file.